

## 8 CLAIMS

1. An automated workflow system for executing business logic using declarative languages comprising:

a process description further including flows, rules and states;

wherein Flows represent the control flow between business functions, States represent the legal state transitions for a business entities, and Rules represent the business rules and policies enforced on the business entities in an externalized form.

2. An automated workflow system for executing business logic using declarative languages according to claim 1, further comprising:

a library of tasks, in which each task has a precondition and postcondition wherein the desired precondition and postcondition are automatically designed prior to execution.

3. An automated workflow system for executing business logic using declarative languages according to claim 1, further comprising:

a coordinator that coordinates the flows, rules and states.

4. An automated workflow system for executing business logic using declarative languages according to claim 1 used by a plurality of parties, in which one of the parties acts as a trusted third party for the other participants, and performs services comprising Guaranteeing the correctness of a protocol, both at design time and at run time Maintaining records of all the interactions and Performing some activities for the other participants as a part of the workflow.

5. An automated workflow system for executing business logic using declarative languages according to claim 1 in which the declarative language is XML.

6. An automated workflow system for executing business logic using declarative languages according to claim 1 in which the declarative language is WSDL.

7. An automated workflow system for executing business logic using declarative languages according to claim 1 in which the workflow further comprises assertions, which describe the preconditions and postconditions of the system at that point in the workflow.

8. An automated workflow system for executing business logic using declarative languages according to claim 7, wherein the assertions are checked at runtime as the system executes to ensure that the execution is correct.

9. An automated workflow system for executing business logic using declarative languages according to claim 7, wherein the precondition assertions are used to prove the correctness of the design before the design; that the assertion specified.

10. An automated workflow system for executing business logic using declarative languages according to claim 7, wherein the postcondition assertions are used to prove the correctness of the design at the end of the workflow.

11. An automated workflow system for executing business logic using a Web-based transport protocol comprising:

a process description which is further comprised of flows, rules and states wherein Flows represent the control flow between the business functions, States represent the legal state transitions for a business entity, and Rules influence the control flow and cause the state transition from one state to the next.

12. An automated workflow system for executing business logic using a Web-based transport protocol according to claim 11, further comprising:

a library of tasks, in which each task has a precondition and postcondition wherein the desired precondition and postcondition are automatically designed prior to execution.

13. An automated workflow system for executing business logic using a Web-based transport protocol according to claim 11, further comprising:

a coordinator that coordinates the flows, rules and states.

14. An automated workflow system for executing business logic using a Web-based transport protocol according to claim 11 used by a plurality of parties, in which one of the parties acts as a trusted third party for the other participants, and performs services comprising Guaranteeing the correctness of a protocol, both at design time and at run time Maintaining records of all the interactions and Performing some activities for the other participants as a part of the workflow.

15. An automated workflow system for executing business logic using a Web-based transport protocol according to claim 11 in which the Web-based transport protocol is http.

16. An automated workflow system for executing business logic using a Web-based transport protocol according to claim 11 in which the Web-based transport protocol is https.

17. An automated workflow system for executing business logic using a Web-based transport protocol according to claim 11 in which the workflow further comprises assertions, which describe the preconditions and postconditions of the system at that point in the workflow.

18. An automated workflow system for executing business logic using a Web-based transport protocol according to claim 17, wherein the assertions are checked at runtime as the system executes to ensure that the execution is correct.

19. An automated workflow system for executing business logic using a Web-based transport protocol according to claim 17,

wherein the precondition assertions are used to prove the correctness of the design before the design; that the assertion specified.

20. An automated workflow system for executing business logic using a Web-based transport protocol according to claim 17,

wherein the postcondition assertions are used to prove the correctness of the design at the end of the workflow.

21. A system for executing business logic using declarative languages comprising:

means for storing a process description that includes a medium for storing flows, rules and states, wherein flows represent the control flow between business functions, states represent the legal state transitions for a business entities, and rules represent the business rules and policies enforced on the business entities in an externalized form; and

means for executing said process.

22. A process for executing business logic using declarative languages comprising:

storing a process description that includes a medium for storing flows, rules and states, wherein flows represent the control flow between business functions, states represent the legal state transitions for a business entities, and rules represent the business rules and policies enforced on the business entities in an externalized form; and

executing said process.

23. An automated workflow system for executing business logic using a Web-based transport protocol comprising:

means for storing a process description that includes a medium for storing flows, rules and states, wherein flows represent the control flow between business functions, states represent the legal state transitions for a business entities, and rules represent the business rules and policies enforced on the business entities in an externalized form; and

means for executing said process.

24. A process for executing business logic using a Web-based transport protocol comprising:

storing a process description that includes a medium for storing flows, rules and states, wherein flows represent the control flow between business functions, states represent the legal state transitions for a business entities, and rules represent the business rules and policies enforced on the business entities in an externalized form; and

executing said process.

25. A computer readable medium for storing a program thereon, said program for executing business logic using a Web-based transport protocol, said program having the steps of:

storing a process description that includes a medium for storing flows, rules and states, wherein flows represent the control flow between business functions, states represent the legal state transitions for a business entities, and rules represent the business rules and policies enforced on the business entities in an externalized form; and

executing said process.